United States Department Of Agriculture | Forest Service | Shasta-Trinity National Forests

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Reply To: 3420 Date: October 31, 1991

Subject: Distribution of Phellinus weirii root disease in Upper Boulder Sale Unit 68A, Scott River RD (FPM Report N91-16)

To: Forest Supervisor, Klamath NF

In November 1990, FPM identified Phellinus weirii in a proposed Timber Sale Unit along the Boulder Creek Trail (T. 43 N, R. 11 W, Sec. 3). FPM Report N91-1 (3420, dated January 10, 1991) contains the background and details of this evaluation, as well as a discussion of the biology of this disease.

In 1991, FPM was requested to provide a map of the distribution of P. weirii in this mixed conifer unit for use in management planning for the sale. In addition, FPM was requested to look at surrounding stands for the occurrence of the disease.

On October 16-17, 1991, Gregg DeNitto and Linda Haugen visited the site with Rick Svilich and subsequently mapped the root disease centers. Four east-west transects of the unit were established approximately 3 chains (slope distance) apart, starting one chain downslope (north) of the SW boundary corner. The relative positions of root disease infected trees to the transect were recorded at one chain intervals along the transects. The distribution information is recorded on the enclosed map of the unit.

Root disease is not occurring in discrete centers throughout the sale unit, but rather is widespread throughout the unit and beyond the unit boundaries. The west boundary of the unit is along a large opening resulting from past root disease mortality. The north and east boundaries of the unit have current mortality as well. Within the unit, the pathogen is causing scattered disease and windthrow across most of the area, although many healthy-appearing white fir and Douglas fir can be found. The pathogen may be present on parts of the site which have no trees with apparent above ground symptoms. Another root disease fungus, Heterobasidium annosum, was observed in a dead white fir on the unit.

Management alternatives were previously discussed (see FPM report N91-1, dated 1/10/91). Choices for the unit are limited because the pathogen is widespread, even where above ground symptoms are not obvious. Planting of white fir or Douglas fir within the unit boundary is not likely to result in successful survival of these trees to maturity, and may contribute to maintaining a high level of the pathogen in the affected area. Although removal of stumps of susceptible species (Douglas fir and white fir) at harvest time would reduce the quantity of the pathogen and increase the likelihood of susceptible species escaping infection by P. weirii, this does not appear to be a feasible or desireable alternative for the site. The approach being planned by the district, which is to leave disease tolerant (sugar pine) and resistant species

(ponderosa pine and incense-cedar) on the site and underplant tolerant and resistant species on the unit, is likely to be successful in producing a healthy stand. Sugar pine planted onto the site should be from rust resistant stock to reduce losses from white pine blister rust. Removal of all susceptible hosts (Douglas fir and white fir) will not preclude presence of these species in the future stand, as they will seed in naturally. During pre-commercial thinning and the first commercial entry, susceptible hosts should be targeted for removal so that the fungus will not persist on the site. The silvicultural prescription proposed for this stand will also limit future effects from annosus root disease.

Observations on the occurrence of P. weirii in the stands surrounding Upper Boulder Sale Unit 68A were made during the 10/16/91 site visit. As noted on the unit map, root disease mortality extends downslope to the north, east and west of the unit. To determine the extent of disease in the stands above the road from the sale unit, a westward transect parallel to the road was walked along the upper slope as far as the plantation on the west side of the second drainage. Three P. weirii disease centers of varying size were observed, as noted on the second enclosed map. The locations of the centers on the map are fairly accurate, however, the boundaries of these centers were not precisely determined. In future management activities involving this area, P. weirii should be a consideration.

FPM is available to provide assistance in detailed survey of areas in which P. weirii occurs (such as the above-mentioned centers) as it becomes necessary for management activities. If you decide that public education concerning the management of root disease centers would be beneficial (such as an explanatory sign along the trail near the disease center), FPM is available to provide input. Please contact us at the Shasta-Trinity NF SO (916-246-5101 or 5182) if you have questions concerning this report or if you need further training or technical advice on pest problems.

/s/ Gregg DeNitto

/s/ Linda Haugen

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Enclosures